

REMARKS

Claims 1-22 remain pending in the present application. Clarifying amendments have been made to claims 1, 13 and 22 to more clearly recite the unique and novel features of the claimed invention. Also, the drawing amendments are attached hereto which address the issues raised in the objection to the drawings. Accordingly, reconsideration and allowance for all of the claims in the present application as amended are earnestly solicited in view of the following remarks.

Proposed drawing corrections are provided herein to address the drawing objections raised in paper no. 3. Specifically, the lines, numbers and letters are now all thick and well defined, clean, durable and black with good line quality so that the numbers and characters are plain and legible with good figure legends. Accordingly, it is respectfully requested that the proposed drawing corrections be approved and that the drawing objections be reconsidered and withdrawn.

Claims 1-8 and 10-21 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 2,516,387 to Holicer and claims 9 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Holicer in view of German document No. 1947093 to Wahli. These rejections are respectfully traversed.

Claims 1, 13 and 22 of the present application are directed to pressure relief valves. To minimize and avoid overpressure conditions of the pressure vessels, it is essential for the pressure relief valve to reliably and repeatably open at the predetermined opening pressure so that overpressure conditions of the pressure vessels are avoided. Amended claims 1, 13 and 22 of the present application recite that the pressure relief valves comprise a valve member that is sealingly engaged with a seal surface of a base when the valve is in a closed position during normal operating conditions so that fluid is inhibited from flowing through the through-holes of the valve member. A spring maintains the valve member in contact with the seal surface during normal operating conditions by applying a predetermined spring force. When an over pressure condition occurs, the predetermined spring force is exceeded and the valve member separated from the seal surface such that the through-holes permit fluid to flow through the valve member. As a result, dangerous over pressure conditions which threaten the integrity of the pressurized vessel are minimized and the claimed pressure relief valve facilitates reliable and repeatable operation by avoiding overpressure conditions of the pressurized vessel.

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In the Drawings

The attached six sheets of drawing replace the original six sheets of drawings.

Holicer is relied upon to disclose a valve apparatus for controlling and handling inflammable fluids. As illustrated in Fig. V, the valve apparatus of Holicer includes a body 1, a channel 16, a branch 53, a cross channel 53a, a valve head 54, ports (perforations) 55, a valve spring 58, a retaining plug 59, and an outlet 60. Ports 55 remain always open to the atmosphere but they receive no fluid from the tank in which this fitting is carried until the relief valve carried in branch 52 is opened as disclosed at col. 6, lines 42-45. The relief valve is kept in branch 53 by the use of retaining plug 59 which is fashioned to form a housing for one end of the spring and which is provided with a plurality of the outlets 60 to permit the escape to the atmosphere of fluid passing through the valve as disclosed at col. 6, lines 57-63. The valve spring 58 keeps a resilient valve disc 56 within a recess of the valve head 54. However, the valve spring 58 of Holicer is fundamentally and functionally different than the spring recited in claims 1, 13 and 22 of the present application. Specifically, the valve spring 58 of Holicer merely keeps the valve disc 56 in the valve head 54 while fluid may pass through the ports 55 which are always open to the atmosphere. In contrast to the operation of the spring recited in the claims of the present application, Holicer does not inhibit fluid flow during normal operating conditions and permit fluid flow when a predetermined spring force is exceeded. In fact, the ports of Holicer are always open and Holicer is silent on a predetermined spring force indicative of an over pressure condition. As a result, Holicer does not disclose a pressure relief valve for facilitating reliable and repeatable operation by avoiding overpressure conditions as recited in the claims of the present application.

In the rejection to dependent claims 9 and 22, it is acknowledged that Holicer fails to suggest or imply an annular groove formed in the seal surface receiving an elastomeric seal ring and a base having a passage. Therefore, Wahli is relied upon to disclose a base and a valve enclosed by a cover 1. However, Wahli fails to cure the deficiencies of Holicer and it is respectfully submitted that claims 1-22 of the present application patentably define over Holicer and the combination of Holicer and Wahli. Accordingly, it is respectfully requested that these rejections be reconsidered and withdrawn.

In view of these amendments and for all of the above stated reasons, it is respectfully submitted that all of the outstanding rejections and objections have been overcome. Therefore, it is requested that claims 1-22 of the present application be passed to issue.

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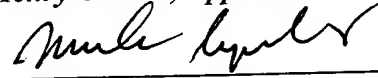
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If any issues remain unresolved, the Examiner is requested to telephone the undersigned attorney. Please charge any additional fees or credit any overpayments to deposit account No. 50-0896.

Respectfully submitted,

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Attachments: 6 Replacement Drawing Sheets